

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) An ion beam irradiation device comprising:

 a holder supporting a substrate;

 an ion beam path; and

 an ion beam source that is a predetermined distance from the substrate and inclined to be substantially parallel with the substrate and that irradiates the substrate with an ion beam along the ion beam path, wherein the ion beam is discharged from the ion beam source with an incidence angle with respect to the substrate ion beam source that is greater than about 0°.

Claim 2. (Original) The ion beam irradiation device according to claim 1, wherein the ion beam source comprises:

 an ionizer that ionizes injected gas into ions and electrons;

 a discharger that discharges the ions as the ion beam; and

 an accelerator that accelerates the discharged ion beam towards the substrate.

Claim 3. (Original) The ion beam irradiation device according to claim 2, wherein the accelerator is substantially parallel with the substrate.

Claim 4. (Original) The ion beam irradiation device according to claim 2, wherein the discharger is substantially parallel with the substrate.

Claim 5. (Original) The ion beam irradiation device according to claim 2, wherein the ionizer is substantially parallel with the substrate.

Claim 6. (Original) The ion beam irradiation device according to claim 2, wherein the discharger and the accelerator are substantially parallel with the substrate and the ionizer inclined at an angle substantially different from the accelerator and discharger.

Claim 7. (Original) The ion beam irradiation device according to claim 1, wherein the substrate comprises an alignment layer formed on a surface thereof.

Claim 8. (Original) The ion beam irradiation device according to claim 1, wherein the ion beam is formed from an inert gas selected from the group consisting of Ar, Kr, and Xe.

Claims 9 and 10. (Cancelled)

Claim 11. (Previously Presented) The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-50°.

Claim 12. (Previously Presented) The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-60°.

Claim 13. (Previously Presented) The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate with an incidence angle of about 10°-20°.

Claim 14. (Currently Amended) A method of irradiating a substrate with an ion beam comprising:

supporting a substrate with an alignment layer at a first angle;
producing ion beams to simultaneously irradiate the whole substrate with ions, wherein the ion beams strike the substrate with the same incidence angle and energy across the substrate, and wherein the ion beams all travel substantially the same distance and the incidence angle is greater than about 0°.

Claim 15. (Original) The method according to claim 14, wherein producing ion beams comprises:

ionizing an injected gas into ions and electrons;
discharging the ions as the ion beams; and
accelerating the discharged ion beams towards the substrate.

Claim 16. (Original) The method according to claim 14, wherein the injected gas is selected from the group of Ar, Kr, and Xe.

Claim 17. (Previously Presented) The method according to claim 14, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-50°.

Claim 18. (Previously Presented) The method according to claim 14, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-60°.

Claim 19. (Previously Presented) The method according to claim 14, wherein the ion beam irradiates the substrate with an incidence angle of about 10°-20°.